

THE NATIONAL HOSPITALS  
FOR NERVOUS DISEASES

THE NATIONAL HOSPITAL  
QUEEN SQUARE, LONDON WC1N 3BG  
MAIDA VALE HOSPITAL, W9 1TL

MAIDA VALE HOSPITAL  
LONDON W9 1TL  
01-286 5172

23 July 82

Dear Dr Redhead,  
What marvellous news — many  
many congratulations  
I will certainly write to Dr Scriver,  
but I would very much like to see  
you before I go. Could I suggest  
Friday Sept 17. some time convenient  
to you in the morning?

With kind regards

R. Pratt  
10.30  
am.  
arrived  
6/8/82

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16 Dec. 81

Dear Dr Redhead,

Once again many thanks for giving me such a clear explanation of my problems.

I am delighted that you are writing a book on the subject matter of your lectures. But I think of the way you have dealt with my enquiries ranging from simple things like the quadratic formula -  $b \pm \sqrt{b^2 - 4ac}$ , to more difficult ones (what is zero) to the relationship between plane & spherical trigonometry (I am dipping into Neugebauer's 3 vol. History now), the Borromean & the hyperboloid and I am sorry the book will not have a wider audience. I retire next year

and will continue to explore  
sundials & their mathematics, and if  
I get into difficulties again, may  
trouble you.

I hope Mr Redhead and  
the boys are well.  
Yours sincerely  
R. Pratt.

Gloucester 3-1-82  
Can I still expect you?  
What about possibilities for  
drop?  
Please in all, you help  
> sufficient.

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16 Oct 81

Dear Dr Redhead,  
Thank you for your letter.

I am delighted to hear about the  
DVP book. I found the excellent  
when I did my book, not least  
because they were not badgering  
me all the time, but left me in  
peace. I hope the other aspects  
of the work are going well too.

I am enclosing this  
hyperboloid of one revolution —  
my question today is — do its  
properties enable it to be  
function as a sundial — if so  
what is the angle of the cone,  
and in what direction should it

be pointed?

I hope Mr Redhead & the  
children are well.

Yours sincerely

R. Prent.

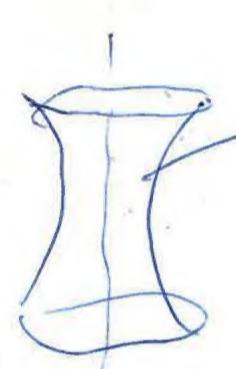
2 cardboard tubes

a)



Shadow tube  
cylinder.

b)



Shadow tube  
cylinder

○ Seen stars  
at 11.00 hrs  
20/10/01

out of  
newspaper

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Dear Dr Redhead,

22 Jan 82.

Many thanks for your letter. There should be no difficulty whatsoever in getting the tablets from your family doctor. I retire in October. My home address is 1 CHURTON PLACE SW1

and phone 834/5044. (I think I am more likely to need your advice than you mine).

Best wishes

R Pratt.

the axis, it generates a cylinder; if its extension intersects the axis, it generates part of a cone.) This suggests a simple experiment with a pencil and a paper clip. Open the paper clip to form an acute angle and then push one end through the eraser of the pencil, as is shown in the bottom illustration on page 37. Turn the wire so that *AB*, the upright part, is skew to the vertical axis of the pencil. Place the pencil between your palms and spin it by sliding your hands rapidly back and forth. With the right lighting the rotating skew line will form a transparent hyperboloid.

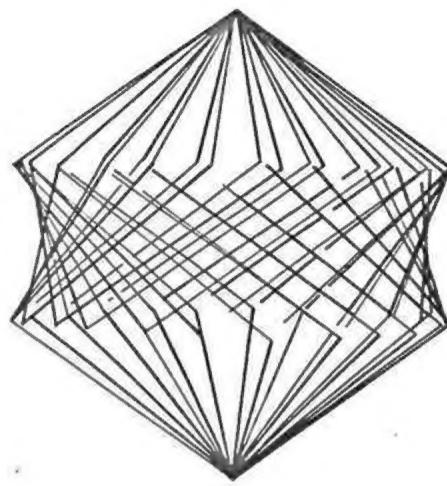
If a cube is spun on one corner, its six skew lines generate a similar surface. With a little practice you can snap a die between your finger and your thumb between two skew axes. The cogs of a gear are one of its sets of generating straight lines.

A striking architectural use of a hyperboloid of revolution of one sheet is

provided by the McDonnell Planetarium at Forest Park in St. Louis [see illustration on page 42]. The designer, Gyo Obata, chose the surface because the hyperbolic paths of certain comets suggest, as he put it, "the drama and excitement of space exploration." Note the straight line of the shadow thrown by the circular roof as sunshine slants down on the planetarium. Is this shadow line one of the generating straight lines of the surface, or is it a space curve that appears straight only when it is viewed from the angle shown? I shall give the answer next month.

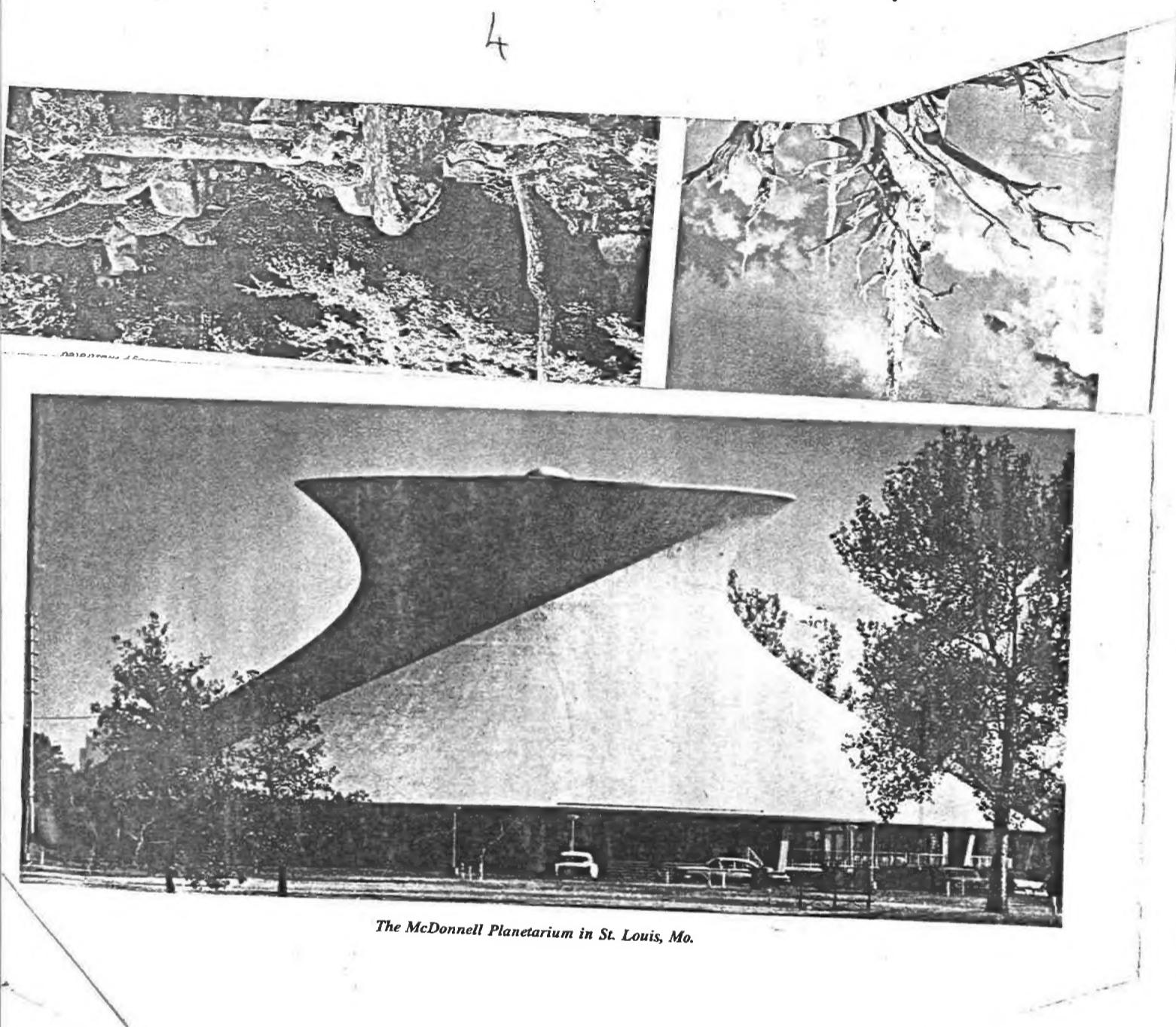
The ciphertext given last month—the one Edgar Allan Poe could not solve—has the following plaintext:

"Mr. Alexander,



Hyperboloid between cones from spinning cube

Hyperboloidal gears transmit motion to a skew shaft



The McDonnell Planetarium in St. Louis, Mo.

to Feb

Dear Dr Redhead

I am most grateful to you for spending time on the Torquatum, & for your exposition of its workings, clear as always.

As I have vol 2. of Bünker, but he is not helpful as he contents himself with supplying the text of an early manuscript on the instrument, & does not translate it into English. I did not know of Mels's papers in Ciel et Terre, & I am getting hold of them — he is a very clear writer.

I am glad all is

going well.

Many thanks again

R Pratt